



Urban District Council of Padiham.

REPORT


OF THE

Medical Officer of Health

on the Health of the

URBAN DISTRICT OF PADIHAM

For the Year 1909.



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The Urban District Council of Padiham.

1909.

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MEDICAL OFFICER OF HEALTH.

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Fellow of the Royal Institute of Public Health.

The Urban District Council of Padiham.

TO THE CHAIRMAN AND MEMBERS OF THE URBAN DISTRICT COUNCIL
OF PADIHAM.

GENTLEMEN,

I have the honour to present my Third Annual Report on the health of your district for consideration.

The pleasing features of the Report are a low Death-rate and a low rate of Infantile Mortality, in fact they are the lowest for the previous ten years, except for the year 1905.

The total number of deaths belonging to the district was 206 and the Death-rate 14.82. During the year 1908 the total number of deaths was 228, representing a Death-rate of 16.36.

There was a considerable fall in the number of births, from 363 in the year 1908 to 342 in the year under review, the Birth-rate consequently falling from 26.05 to 24.60.

The number of Infantile deaths was 53, giving an Infantile Mortality rate of 154.97 per thousand births. In the year 1908 there were 60 and 165.28 respectively.

I have compiled a table from information received from 24 Urban Districts and Boroughs with regard to the Population, Birth-rate, Death-rate, Zymotic Death-rate and Infantile Mortality rate. This, I hope, will prove a very useful comparative Health Review.

On May 1st, 1908, there came into force two measures of very great importance to Public Health, viz.: (1) Tuberculosis Provisions embodied in Part V. of the Padiham Urban District Council Act, 1908; (2) Regulations under the Provisions of the Dairies, Cow-sheds, and Milk-shops Order, 1885.

In conclusion, I beg to acknowledge my grateful appreciation of the cordial assistance rendered by my fellow-officials, and the kindly encouragement received from you in the discharge of my duties.

I am, Gentlemen,

Your obedient servant,

N. R. DHARMAVIR,

PUBLIC HEALTH DEPARTMENT,

Medical Officer of Health.

PADIHAM, *March 3rd*, 1910.

SUMMARY OF STATISTICS.

Area of District in Acres	976
Total Population at Census of 1901	12205
Number of Inhabited Houses in 1901	2760
Average Number of Persons per House in 1901	4.49
Estimated Population in the middle of 1909	13900
Density of Population.....(persons per acre)...	14.24
Number of Inhabited Houses	3159
Number of Births registered	342
Birth Rate	24.60
Number of Deaths registered in the District	168
Death Rate	12.08
Number of Deaths registered in Public Institutions beyond the District	38
Total number of Deaths belonging to the District	206
" Corrected " Death Rate	14.82
Number of Deaths under 1 year	53
Infantile Mortality Rate	154.97
" Zymotic " Death Rate .....	.36
Respiratory Death Rate	2.94
Phthisis Death Rate	1.08
Death Rate from other forms of Tuberculosis .....	.14
" Malignant Disease " Death Rate .....	.64

REPORT.

TOPOGRAPHY.

Padiham is situated in the Calder Valley. To the North is Pendle Hill and to the South Hambledon Hill. It is traversed from east to west by the River Calder. The part of the town which is situated to the north of the river is hilly and at its highest point is 420 feet above the sea level. The greater part of the town to the south is much flatter and is 250 feet above the sea level at its lowest point, the mean altitude of the town being 335 feet. The soil is clayey and damp.

RIVER CALDER.

This river is joined by three brooks in your district, viz.:—Green Brook, Shaw Brook, and Castle Clough Brook, all of which rise on Hambledon Hill.

GREEN BROOK.—In its passage through Lowerhouse it receives pigmented effluent from the Settling Tanks connected with the Print Works. It then enters the town at its east end and before it flows into the river Calder in the centre of the town, it joins Shaw Brook.

SHAW BROOK.—This brook passes through the Chemical Works of Messrs. John Riley and Sons, Hapton, and frequently emits a strong odour and is generally of a yellowish colour. It enters the district from the south-east. The water of this brook is alleged to corrode metals with which it comes in contact.

CASTLE CLOUGH BROOK.—Before it joins the river it forms part of the boundary of your district on the south side. This brook receives effluent from the Settling Tanks of Castle Clough Print Works.

WEATHER.

The weather was, on the whole, mild. The maximum temperature from April to October seldom fell below 50 F., and the average weekly maximum temperature during the first quarter (January, February, and March), and the last two months (November and December) was rarely below 37 F. The summer was showery. The first week of May was the brightest, having about 80 hours of sunshine. The second week of August was the hottest, the maximum shade temperature rising to 76.5 F. on August 6th. During the winter months the lowest temperature was 10 F., which was reached on December 13th. The week ending December 18th was the darkest, having only about 3 hours sunshine.

RAINFALL IN INCHES.

MONTH.	REGISTERED AT CHURN CLOUGH.	AT GAWTHORPE HALL. (Record kindly supplied by Alfred Ford, Esq., J.P.)				
January	1.97	...	...	...	...	2.66
February	3.97	...	...	...	...	3.46
March	2.40	...	...	...	...	2.67
April	3.76	...	...	...	...	3.86
May	2.04	...	...	...	...	1.98
June	2.20	...	...	...	...	2.49
July	6.11	...	...	...	...	6.13
August	3.10	3.37
September	2.48	2.74
October	4.53	5.08
November	1.85	2.03
December	6.15	5.94
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Total rainfall for the year	40.56	42.41

It will be seen that July was about the wettest month of the year.

POPULATION.

The population at the census of 1901 was 12,205. In accordance with the Registrar-General's method of calculating the population of large towns, the population of your district works out to 13,005. Having regard to the extensive growth of the district during the last eight years, this estimate seems to me rather too low.

For the last two years I have based the estimate on the number of inhabited houses, assuming that the average number of occupants of each house was the same as in the last census year. Though this is, on the whole, a more reliable method, it is not free from an obvious error. A glance at the table below shows that the average number of persons per inhabited house has been steadily decreasing.

Year.	Number of Persons.	Average Number of Persons per House.	—Decrease or † Increase.
1801.....	2118	5.54	
1811.....	2556	5.35	— .19
1821.....	3060	5.45	† .10
1831.....	3529	5.48	† .03
1841.....	3789	5.31	— .17
1851.....	4509	5.11	— .20
1861.....	5911	4.98	— .13
1871.....	6914	4.73	— .25
1881.....	8974	4.73	0
1891.....	11301	4.63	— .10
1901.....	12205	4.49	— .14

It may be seen that the average number of occupants per house in the year 1801 was 5.54, and ever since the census year 1831, when it was 5.48, it has been gradually decreasing each succeeding Census Year, being lowest at the last one, viz. 4.49. Thus the decrease in the average number of occupants per house during the year 1901, as compared with the year 1801, was 1.05, or a decrease of about 20 per cent. in the number of persons per house.

It is evident that in estimating the population some allowance must be made for this steady fall in the number of persons per house. The population based on the number 4.4 instead of 4.9 per house will, I think, not be beyond the mark and works out to 13,900.

I may also remark that this fall in the average number of persons per house is an indication that the people are becoming alive to the disadvantages of overcrowding.

OCCUPATION.

The staple industry of the town is cotton-spinning and weaving. 3760 operatives were employed in the mills; 1711 of them were male and 2049 female. They work 55 hours per week, made up as follows:—From 6 to 8 a.m., 8-40 to 12-40 p.m., 1-30 p.m. to 5-30 p.m. on 5 days a week and on Saturdays from 6 a.m. to 8 a.m. and 8-30 to 11-30 a.m.

There are 63 Factories on the register, of which the following is a list:—

Cotton and Spinning Mills	...	...	...	...	...	21
Laundries	...	...	...	...	...	2
Cycle and Motor Works	...	...	...	...	...	2
Iron Works	...	...	...	...	...	6
Joiners and Cabinet Makers	...	...	...	...	...	8
Chemical Works	...	...	...	...	...	2
Letterpress Printers	...	...	...	...	...	4
Aerated Water Works...	...	...	...	...	...	2
Builders and Contractors	...	...	...	...	...	2
Rope Works	...	...	...	...	...	1
Mortar Mill Works	...	...	...	...	...	3
Reed Makers (1), Brushmakers (1)	...	...	...	...	...	2
Other Trades	...	...	...	...	...	8
						—
Total						63
						—

The following is the number of Workshops on the register :—

Bakehouses	...	...	...	...	...	...	...	...	27
Dressmakers	...	...	...	...	...	...	...	...	12
Milliners	...	...	...	...	...	...	...	...	4
Tailors	...	...	...	...	...	...	...	...	7
Shoemakers and Cloggers	...	...	...	...	...	...	...	...	20
Plumbers	...	...	...	...	...	...	...	...	4
Painters and Decorators	...	...	...	...	...	...	...	...	7
Cabinet Makers	...	...	...	...	...	...	...	...	5
Blacksmiths	...	...	...	...	...	...	...	...	4
Tripe Dressers	...	...	...	...	...	...	...	...	4
Other Trades	...	...	...	...	...	...	...	...	15
									<hr/>
Total									109

There are 82 Workplaces.

The Inspector of Nuisances paid 83 visits to the factories and served 17 notices. Nine Pail Closets were converted into Fresh-water Closets. The workshops and workplaces received 119 visits. Twenty-two notices were served. The total number of defects found in Factories, Workshops and Workplaces was 37, 32 of which were remedied.

PUBLIC ELEMENTARY SCHOOLS.

These are six in number. Three of them are Church of England Schools, 1 Roman Catholic, 1 Wesleyan and 1 Council School. With the exception of one, which is a modern building, hence up-to-date in the matter of sanitary requirements, the others are old, but in good sanitary condition. All the schools are provided with a sufficient number of Water Closets, with the exception of one, which possesses a cesspool, to which reference will be made later.

With the exception of an epidemic of Measles which commenced among the scholars in the last quarter of 1908 and gradually ceased in the first quarter of 1909, there was no outbreak of Infectious Disease.

EDUCATION (Administrative Provisions) ACT, 1907.—Your district forms part of the Area 13 of the Lancashire Education Authority, who have appointed a County Medical Superintendent having full charge of the inspection of School Children for the Administrative County. One of the Assistant Medical Officers of the Lancashire Education Committee visited the Padiham Schools during May and June and examined the children leaving during the year, the infants under 5, and any other scholars recommended by the teachers for examination.

DWELLING HOUSES AND HOUSE ACCOMMODATION.

The number of inhabited houses in the middle of the year 1909 was 3159. I estimate the average number of persons per house to be 4.4. The density of population works out to about 14 persons per acre.

The modern houses are situated in wide streets and have at least 150 sq. ft. backyard space. They are provided with good sanitary conveniences and the backyards are well paved.

In the older part of the township the streets are generally narrow and there are also a number of dark alleys, cellar dwellings and back-to-back houses. They are kept as far as possible in a clean and sanitary condition.

The Surveyor supervises the erection of new houses with regard to drainage, sanitary conveniences and other sanitary matters.

The dwelling houses numbered 32 to 48, West Street, being in a dilapidated condition and unfit for habitation, were closed.

The house to house inspection was carried on systematically.

The total number of Common Nuisances found by your Sanitary Inspector was 352, affecting 357 houses. They consisted of short waste-water pipes defective yard flags, broken rain-water pipes, choked yard and closet drains, accumulation of waste water, etc. All of them were removed.

SANITARY ACCOMMODATION AND SCAVENGING.

The removal and disposal of house refuse and scavenging is carried on by the Sanitary Department.

The Sanitary Accommodation within the District consists of the following types, the number of which for 4 years, I have placed side by side for the purpose of comparison :—

	<i>Year</i>	<i>Year</i>	<i>Year</i>	<i>Year</i>
	1906	1907	1908	1909
Number of Clean Water Closets	203	230	247	261
„ „ Waste Water Closets(Tippers) 1320	1320	1360	1429	1488
„ „ Pail Closets	1543	1529	1516	1503
„ „ Cesspools	3	3	3	3
„ „ Ashtubs (Wood)	2950	3000	2995	2985
„ „ Ashbins (Galvanised)	0	168	298	368
„ „ Ashpits	4	4	3	3

It will be seen that the number of Pail Closets is exceedingly large, and their conversion into Fresh or Waste Water Closets is very slow. There were only 13 such conversions during the year.

The pails, which are made of tarred oak, receive the excreta. No ashes are allowed to be deposited in them. They are emptied weekly, and, in some cases, bi-weekly, between the hours of 12 midnight and 6 a.m. The contents are then carted to pasture lands for use as manure. 1444 loads of excreta were thus removed during the year.

The accumulation of liquid excreta and its decomposition for a week in the vicinity of a dwelling-house cannot be free from risk. It is to be hoped that the use of Pail accommodation will rapidly become extinct.

Of the three Cesspools one is in use in a school and two in factories. The work of converting these primitive excreta ponds into fresh-water closets is in the hands of your Surveyor.

WOODEN TUBS, GALVANISED BINS AND ASHPITS.—The domestic and shop refuse is principally stored in Tubs or Bins. These are emptied about once a week. There are three Ashpits which are emptied at irregular intervals.

2819 loads of Domestic and Shop Refuse were collected and cremated at the Destructor Works.

SCAVENGING.—Street scavenging is carried out regularly and systematically. The main streets are kept clear of all litter, waste paper, etc., by means of hand carts, whilst the secondary and district roads are swept once to three times per week. 874 loads of street sweepings and 328 loads of street-gully refuse were removed and sold as manure.

SEWERAGE AND DRAINAGE.

The sewerage and drainage of the District is constructed on the Combined System, storm, surface, and sub-soil water being taken together, as far as possible, to the Sewage Works for final disposal.

The contour of the District is favourable to the formation of good gradient and the system works very well.

DISPOSAL OF SEWAGE.

The average sewage flow is estimated at 480,000 gallons per day. It is treated on a Sewage farm situated on the south side of the river Calder. It is ten acres in area and its subsoil is gravel.

The purification of sewage is carried on by precipitation and land filtration. It passes into six settling tanks, each forty feet square, and then on to the land. The effluent is discharged into the river.

QUALITY OF EFFLUENT.

In my last two Annual Reports I drew your attention to the inefficiency of the working of the sewage farm. The effluent, when it passes out after filtration, is in many cases, very little different from a diluted sewage. This is apparent in the following analyses taken from the Annual Report of Edward Halliwell, Esq., F.I.C., Chief Inspector to the Ribble Joint Committee.

ANALYSIS OF EFFLUENT.

Sample No.	Taken.	Chlorides in terms of Chlorine.	Ammonia.		Nitrates in terms of Nitrogen.	Oxygen Absorbed.		In Solution only.		After Incubation.	
			Free.	Alb.		In three minutes.	In four hours.	Alb. Ammonia.	In three minutes.	Oxygen absorbed in three minutes.	Nitrates in terms of Nitrogen.
1909											
W 2902	Feb. 11th	3.4	.86	.09	Nil.	.24	.88		.34		Trace
W 3041	June 6th	5.8	2.55	.26	Nil.	.80	2.30	.11	.50	2.16	Large H ₂ S
W 3097	Aug 11th	4.2	1.00	.16	0	.50	1.34		1.52		H ₂ S
W 3191	October 18th	3.4	1.02	.10	Nil.	.26	.76		.28		H ₂ S
W 3245	Dec. 10th	4.4	1.82	.18	Nil.	.46	1.62		.74		H ₂ S
1910											
W 3295	Jan. 17th	4.0	.92	.10	0	.28	1.46		.70		H ₂ S

EDWARD HALLIWELL, F.I.C

The odour of sulphuretted hydrogen after incubation was a marked feature of all the samples. This, together with the very high albuminoid-ammonia "figure," show the unsatisfactory nature of the effluent.

The unsatisfactory result of the treatment of sewage is partly owing to the increase in the quantity due to the growth of the population and the gradual conversion of the Pail System into the Water Carriage System.

After a careful consideration of the efficient and economic way of purifying the sewage you instructed your Surveyor to submit plans and estimates for the extension of the Sewage Works.

At a meeting of your Health Committee, held in November, 1909, the plans and estimates were presented and duly approved and it was resolved that application be made to the Local Government Board for sanction to borrow the sum of £4,300 being the amount of the estimated cost.

The Works will consist of 3 additional tanks, 40ft. by 40ft. by 5ft. deep, having a holding capacity of 150,000 gallons, which, added to the present tank capacity, brings the total capacity to 510,000 gallons.

The sewage will pass from the tanks on to 3 Contact Beds, 123ft. by 80ft. by 3½ft., having a cubic capacity of 3644 cubic yards, which will be able to treat 650,000 gallons of sewage in 24 hours, viz.: 170,000 gallons more than the average sewage flow. The sewage will receive further treatment on 6 acres of land by filtration before the effluent is discharged into the river..

WATER SUPPLY.

The Council controls the water supply, which is chiefly upland.

The Churn Clough Reservoir was opened on the 23rd of March, 1892, in place of the old Reservoir at Wall Green which was taken over from the late Water Company in 1874.

Its gathering ground is situated on the south side of Pendle Hill, is 800 to 1500 feet above the Ordnance Datum and has an area of 254 acres. Its composition is millstone grit and yoredale rock.

The holding capacity of the reservoir is 121,000,000 gallons and the water area is 15½ acres. The depth of water in the reservoir is 63 feet 3 inches when full. The water is of excellent quality and plentiful.

The Padiham Urban District Council Act, 1908, has given you power to supply water to Simonstone.

Your Water Engineer's Annual Report, presented in April, 1909, contains the following important information:—"At present you are supplying a population of 16,970 in addition to 10 farms and 62 meters, the latter registering 9,282,000 gallons during the year."

	Population.
Padiham	13940
Burnley	2490
Altham	158
Simonstone	346
Northtown	36
	<hr/>
	16970

WATER STATISTICS.

Population supplied with water—16,970.

Consumption per day on 20 gallons per head basis ...	339,400 gallons.
Average consumption for trade purposes	25,460 „
Compensation to Churn Clough Brook	156,800 „
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Total Daily Consumption	521,660 „

CHURN CLOUGH AREA.

Area of Churn Clough Gathering Ground.....	254 acres.
Average Annual Rainfall in 7 years	37.77 inches.
Total Rainfall on Gathering Ground per year	217,654,346 gallons.
Available Rainfall on Gathering Gound per year after deducting $\frac{1}{3}$ for infiltration and evaporation	145,102,897 „
Capacity of Churn Clough Reservoir	121,000,000 „
Number of days' storage	232 days.
Number of days' supply from Churn Clough Area ...	278 days.

MILK SUPPLY.

Two measures of very great importance came into operation on May 1st, 1909 :—

1. *Regulations under the provision of the Dairies, Cowsheds, and Milkshops' Order, 1885.*—These deal with the cleansing, lighting, ventilation, drainage and water supply of Cowsheds and Dairies and with the cleanliness of Milkshops, Milk-stores, and milk vessels. They make it incumbent on milkers to have their hands perfectly clean and free from any contamination or infection and to wash the teats and udder of the cow at the time of milking.

For the purpose of enforcing the Regulations, I made an inspection of the various Cow-sheds and Dairies in the company of your Sanitary Inspector, and paid particular attention to the cubic capacity of the buildings, with reference to the number of cows kept, the structure of floors and fireplaces, the cleanliness and the lighting.

While there are clean, airy, well-lighted cowsheds, provided with impervious flooring and good drainage, there are others which are filthy, ill-ventilated, ill-lit, with broken up and defective floors soaked with stinking semi-solid filth and without a properly constructed drain.

In some cases I have watched the process of milking. Cleanly cowsheds have generally cleanly milkers. In others in a foul-smelling, dust-laden atmosphere, I have seen hands, covered with dark green filth, engaged in milking cows whose udders and hind quarters were covered with a thick layer of dirt easily displaced by the swinging of the tail and the movements of the milker, the milking stools, kits and other utensils being also dirty. I have seen the sieved milk full of innumerable dark particles of various sizes. It is evident that a good deal of difficulty will be experienced in order to enforce your Regulations made under the Dairies, Cowsheds and Milkshops Order, 1885.

2.—*Tuberculosis Provisions embodied in Part V. of the Padiham Urban District Council Act, 1908.*—Any dairyman or farmer who supplies milk within the district shall notify cases of Tuberculosis of the Udder, isolate the tuberculous cows and shall not knowingly sell tuberculous milk in the district without incurring a penalty. The Medical Officer of Health has power to take samples of milk on sale in the district, and inspect, in the company of a Veterinary Surgeon, dairies supplying milk to the district, whether in the district or not, and may take samples of milk from the tuberculous udder. The Council, on the reports of the Medical Officer and the Veterinary Surgeon, may make an order for the discontinuance of the sale of such tuberculous milk.

Persistent vigilance and systematic supervision of the condition of Cowsheds and Milkshops, the health and cleanliness of the cows, the process of milking, the storage and distribution, and lastly, the quality of the milk itself must necessarily, though slowly, educate the dealers to the habit of cleanliness and the adoption of general sanitary principles in their daily work. What is much more important the improvement in the quality of milk is bound to add to the general well-being of the community, and to prove a serious and useful step towards lowering the appalling death rate among infants.

Having regard to the great benefits which are certain to accrue from the improved milk supply the enforcement of the Act and Regulations above mentioned will have to be patiently and firmly careid out.

So far I have received no notification of Tuberculosis in a cow, nor have I taken any samples of milk with a view to ascertaining its freedom from tubercle. It is my intention to submit a few samples for bacteriological examination this year.

LIGHTING.

The Council, through their Gas Department, has the control of the manufacture and sale of Coal Gas. It is used for street lighting and sold for private use for lighting, heating, cooking and power.

During the year ending March 31st, 1909, the average illuminating value of the gas was 16.78 candles with the No. 1 London Argand Burner.

For the same period the total number of Public Lamps was 385.

I again beg to draw your attention to the importance of chemically testing the gas, which may prove to be a source of danger to Public Health if the injurious elements *e.g.* Sulphuretted Hydrogen, etc., are not eliminated.

SLAUGHTER HOUSES.

NO. ON REGISTER, 10.

These premises are periodically visited. Some of the buildings are old, having defective floors. All are provided with efficient drains and, as far as possible, are kept clean.

In some cases the premises are in close proximity to dwellings and open to public view.

These slaughter-houses provide accommodation for 17 cows, 78 sheep, and 31 pigs.

No case of diseased animals has come to my notice, nor has seizure of unsound meat been necessary.

For the purpose of the better supervision and inspection of meat, I must again suggest the desirability of a Public Slaughter-house, which you have the power to build.

BAKEHOUSES.

No. on Register, Retail	23
„ „ Wholesale	4

These premises have received 54 visits from the Sanitary Inspector and have been periodically inspected by myself.

There are two underground bakehouses, one retail and the other whole-sale. All the premises are clean, well-lighted, and comply with the general sanitary requirements.

BIRTHS AND BIRTH-RATE.

The number of births registered during the year was 342, 190 of which were male and 152 female. This represents a birth-rate of 24.60. The number of births and the birth-rate during the previous year were 363 and 26.05 respectively. The average number of births for the previous 10 years was 339 and the average birth-rate 25.9. This shows a decline of 5.2 per cent. from the average of 10 years' birth-rate.

There were 23 illegitimate births, representing a ratio of 1 illegitimate to 14 legitimate births.

A table showing the number of births and the birth-rates for the last 10 years and the average number of births and birth-rate for the same period will be found on page 27.

DEATHS AND DEATH-RATE.

The deaths registered in the district numbered 168, representing a death-rate of 12.08. Added to this number, 38 deaths of Padiham residents which occurred in public institutions outside your district make up a total of 206—98 male and 108 female—giving a “corrected” death-rate of 14.82. This is 11.7 per cent. less than the average of the previous 10 years’ death-rates.

ANALYSIS OF DEATHS AT DIFFERENT AGE-PERIODS.

Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
53	16	12	10	67	48

It may be seen from the table that 69 or $\frac{1}{3}$ of the total number of deaths occurred under 5 years.

A table, showing the number of deaths and death-rates for the previous 10 years and the mean number of deaths and death-rate for the same period will be found on page 27.

INFANTILE MORTALITY.

The number of infants who died before they were a year old was 53, representing an Infantile Mortality-rate 154.97 per thousand births.

The following table gives the number of infant deaths and the infantile death-rates commencing from the year 1896:—

<i>Year.</i>	<i>No. of Infant Deaths.</i>	<i>Infantile Death-Rate.</i>
1896	61	159
1897	52	147.72
1898	57	173.25
1899	84	229.50
1900	64	189.91
1901	75	219.94
1902	65	191.74
1903	58	168.11
1904	70	222.22
1905	40	131.11
1906	55	160.43
1907	66	194.11
1908	60	165.28
1909	53	154.97

It is apparent from the above table, giving fourteen years’ record, that the Infantile Mortality-rate is lowest for the year 1909, except for the years 1897 and 1905 when it was 147.72 and 131.11. The average Infantile Mortality rate for the previous 10 years works out to 187.23, which is 20 per cent. more than the Infantile Mortality rate for 1909.

Out of 53 deaths no less than 13, or rather more than 25 per cent. occurred from Premature Birth, which I think is a very high figure. A good proportion of these deaths must be due either to some error in feeding or some preventible cause in the life of the mother, *e.g.*, overwork, worry, etc.

Fifteen deaths, or 28 per cent., were accounted for by Gastritis, Gastro-Enteritis, Atrophy, Debility, inability to assimilate food, etc., causes which are invariably traceable to faulty feeding.

Convulsions claimed five deaths. This important symptom is frequently caused, directly or indirectly, by errors in feeding.

These are the commonest causes which are responsible for the increased Infantile Mortality in the industrial districts where, in consequence of the greater demand for female labour, the Nursing-out System is in vogue.

The following comparative table of the chief causes of Infantile Mortality shows that though there is a distinct fall in the Infantile Death-rate, this is not due to the causes enumerated above, but to those chiefly, resulting from climatic changes, *e.g.*, Bronchitis.

<i>Name of Disease.</i>	1907	1908	1909
Measles .....	...	4	...
Whooping Cough .....	...	...	2
Diarrhoea .....	...	4	...
Enteritis, Gastro-Enteritis, etc.	7	4	2
Gastritis	1	2	6
Premature Birth	9	7	13
Convulsions	4	2	5
Atrophy, Debility, Marasmus	12	10	7
Congenital Defects	5	3	1
Tuberculous Meningitis	1	1	1
Tuberculous Peritonitis	2	1	—
Other Tubercular Diseases ...	1	...	...
Erysipelas	1	1	1
Meningitis (simple)	2	3	...
Bronchitis, etc.	15	13	9
Suffocation, Overlying .....	...	1	1
Other Causes	6	4	5
	—	—	—
Total	66	60	53

There were only 9 deaths from Bronchitis and Broncho-Pneumonia, which were responsible for 15 deaths in 1907 and 13 in 1908.

It is evident that in order to effectively combat the Infantile Mortality our endeavours must be specially directed towards disseminating knowledge with regard to the care and feeding of infants. Tubercular and polluted milk,

and milk containing preservatives on the one hand, and an innumerable host of patent foods on the other, are the bane of infant life and a source of considerable worry and annoyance to the anxious mother.

One would think that as the "Sale of Food and Drugs Act," the new Regulations made by you under the "Dairies, Cowsheds and Milkshops Order," 1885, and the "Tuberculosis Provisions" of the Padiham Urban District Council Act, 1908," are now in operation, the immunity of milk from Tuberculosis, Pollution and Preservatives should be well nigh assured. But the task is a very difficult one, especially if you consider that there are 43 Cowsheds and Milkshops which provide your district with milk. Out of this number only 17 are situated in the district ; the remainder belong to the neighbouring districts.

The question of adopting the "Notification of Births" Act has been before you for two years. This necessitates the employment of a Lady Health Visitor or Health Inspector without whose services the adoption of the Act would practically be useless. In the opinion of the Health Committee there did not seem to be sufficient scope for the services of a Health Visitor and this important matter has consequently been allowed to drop.

NOTIFIABLE INFECTIOUS DISEASES.

The total number of cases of Notifiable Infectious Diseases was 42. Twenty were cases of Diphtheria, 5 Erysipelas, 14 Scarlet Fever, and 3 Enteric Fever.

Eight cases were removed to the Burnley District Sanatorium, 2 being Diphtheria, 4 Scarlet Fever and 2 Enteric Fever.

All the houses were visited and sanitary defects, if found, were removed.

Verbal instructions with reference to the isolation of patients were given as well as printed matter, dealing with the nature of infection and precautions for the prevention of its spread. Disinfectants were freely supplied, and were used for washing floors, woodwork, steeping infected washable clothes, disinfecting excreta, etc.

The disinfection of the infected room or rooms is carried on by spraying with liquid formaline by means of a Formalide Sprayer, or by fumigation with sulphur, or both.

These methods are not efficient to destroy infection in hair or woollen mattresses, feather or flock beds, pillows, woollen and silk dresses or garments, which consequently remain a source of infection for a considerable time.

Some years ago you entered into an agreement with the Burnley Health Committee whereby your Sanitary Department is entitled to have infected bedding, clothing, etc., disinfected by the Burnley Steam Disinfector at a fixed cost. But, as far as I know, no arrangement has ever been made to carry it out, except when the smallpox epidemic broke out in the District.

The following table gives the number of Notifiable Infectious Diseases from the year 1879 to 1909:—

<i>Year.</i>	<i>Small Pox.</i>	<i>Diphtheria.</i>	<i>Erysipelas.</i>	<i>Scarlet Fever.</i>	<i>Enteric Fever.</i>	<i>Contin'd Fever.</i>	<i>Puerpl. Fever.</i>
1897 ...	0	5	11	14	9	1	5
1898 ...	0	10	16	197	3	3	0
1899 ...	0	9	15	78	8	0	1
1900 ...	0	10	17	87	11	0	0
1901 ...	0	5	11	39	8	2	0
1902 ...	39	15	14	105	2	1	2
1903 ...	26	11	15	12	3	2	1
1904 ...	2	10	17	11	4	1	0
1905 ...	4	6	20	69	4	1	0
1906 ...	0	8	17	79	4	1	0
1907 ...	0	12	15	138	3	2	1
1908 ...	0	18	11	26	3	1	2
1909 ...	0	20	5	14	3	0	0

DIPHTHERIA.

There were 20 cases of this disease all of whom recovered. The incidence was as follows:—There was 1 case in January, 4 cases in March, 5 in April, 1 in May, 3 in June, 1 in September, 2 in October, 2 in November and 1 in December.

The disease seemed to have commenced in Stockbridge Ward. Out of 10 cases notified in January, March, April and May, 9 belonged to Stockbridge Ward. Beyond the fact that these cases were in the vicinity of each other I was unable to account for the spread of this disease.

Diphtheria infection lingers for a considerable time in the throat though the patient may have completely recovered from the disease. Apparently healthy scholars have thus been known to infect others without themselves suffering any ill effect.

SCARLET FEVER.

Fourteen cases of this disease were notified. One of them proved fatal, representing a case mortality of 7.14 per cent.

They were notified as follows:—

During January	...	...	...	...	...	1
„ February	...	...	...	...	...	1
„ March	...	...	...	...	...	2
„ May	...	...	...	...	...	2
„ June	...	...	...	...	...	2
„ July	...	...	...	...	...	1
„ August	...	...	...	...	...	2
„ September	...	...	...	...	...	2
„ October	...	...	...	...	...	1

Total 14

These cases were generally sporadic in origin.

ERYSIPELAS.

Five cases were notified, one proving fatal.

ENTERIC FEVER.

There were three cases of this disease without a fatal result. The first case occurred in April in an ill-ventilated, dark, badly drained house. The second case was notified in June from the same house. Both were removed to the Burnley District Sanatorium and the defects, as far as possible, rectified. The third case occurred in August. The patient attributed her illness to infected ice-cream taken while away on a holiday. Both houses were disinfected in the usual manner.

PUERPERAL FEVER AND MIDWIVES' ACT, 1902.

There was no case of Puerperal Fever. There are 4 certified Midwives practising in the district.

DIARRHŒA, ENTRITIS, GASTRITIS, ETC.

There was no death from Diarrhœa, a fact which partly accounts for the low Infantile Mortality. A cool and showery summer like the one we had is unfavourable to this disease.

Gastritis, Entritis, etc., caused 11 deaths, 8 of which occurred among infants under 1 year.

ZYMOTIC DISEASES.

The number of deaths from the seven principal Zymotic Diseases, viz., Small Pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, "Fever" (Typhus, Typhoid and Continued), and Diarrhœa, was five, which is equivalent to a Zymotic Death Rate of .36 per thousand population. The Zymotic Death Rate in 1908 was 1.36.

DISEASES OF THE RESPIRATORY ORGANS.

Out of the total number of deaths from Respiratory Diseases (41), 27 occurred from Bronchitis, 9 being among infants under one year. The age distribution of the deaths from Respiratory Diseases was as follows:—

Under 1 year	...	...	...	...	...	9
1 and „ 5 years	...	...	...	...	...	6
5 and „ 15 „	...	...	...	...	...	3
15 and „ 25 „	...	...	...	...	...	0
25 and „ 65 „	...	...	...	...	...	14
65 and upwards	...	...	...	...	...	9
						—
Total	...	...	...	...	...	41

Ten died from Pneumonia and four from other Respiratory Diseases. The Death Rate from these diseases works out to 2.94 per thousand population.

CANCER (MALIGNANT DISEASE).

This fell disease claimed 9 victims, the same number as the previous year. This gives a Death-rate of .64 per 1000 population. It was .64 in 1908 and .72 in 1907.

PHTHISIS (PULMONARY TUBERCULOSIS) AND OTHER TUBERCULAR DISEASES.

The number of deaths from Phthisis was 15 and from other Tubercular Diseases 2, against 9 and 6 in 1908.

The Phthisis Mortality works out to 1.08. In the previous two years it was .64 and in 1906 1.40 per 1000 population.

The death-rate from all Tubercular Diseases (including Phthisis) is 1.22 per 1000 population, as compared with 1.07 in 1908 and 1.15 in 1907.

There is no system of Notification of Phthisis in vogue in the District.

THE PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1908.

These Regulations came into operation on the 1st day of January, 1909.

15 Notifications of Phthisis were received, all from the Burnley Union Infirmary, respecting 11 persons. Their stay in your district was often temporary and they either returned to the Infirmary or migrated to other districts.

FACTORIES, WORKSHOPS, WORKPLACES AND HOMEWORK.
1.—INSPECTION.

INSPECTIONS MADE BY SANITARY INSPECTOR.

PREMISES. (1)	Number of		
	INSPECTIONS. (2)	WRITTEN NOTICES. (3)	PROSECUTIONS. (4)
FACTORIES (Including Factory Laundries)	83	17	..
WORKSHOPS (Including Workshop Laundries)	84	19	..
WORKPLACES	35	3	..
Total	202	39	..

2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

Particulars.	Number of Defects.			
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	Number of Prosecutions (5)
(1)				
<i>Nuisances under the Public Health Acts :—</i>				
Want of Cleanliness	11	8	..	..
Want of Ventilation	3	3	..	..
Overcrowding .. .. .	..	..	..	..
Want of drainage of Floors	6	6	..	..
Other Nuisances	3	3	..	..
Sanitary Accommodation { Insufficient	1	1	..	..
Unsuitable or Defective	11	9	1	..
Not separate for Sexes	..	..	..	..
<i>Offences under the Factory and Workshop Act :—</i>				
Illegal occupation of Underground Bakehouse .. .. .	..	..	..	..
Breach of special sanitary requirements for Bakehouses	1	1	..	..
Other Offences	1	1	..	..
TOTAL	37	32	1	..

VITAL STATISTICS, TABLE I.

COMPARATIVE TABLE GIVING POPULATION, BIRTH-RATE, GENERAL DEATH-RATE, ZYMOTIC DEATH-RATE, AND INFANTILE MORTALITY OF 23 URBAN DISTRICTS AND BOROUGHES FOR 1908 AND 1909.

Name of Town.	Population.		Birth-Rate.		Death-Rate.		Zymotic Death-Rate.		Infantile Mortality.		Remarks.
	1908	1909	1908	1909	1908	1909	1908	1909	1908	1909	
ACCRINGTON	46,000	46,500	22	20.34	14.39	14.60	1.82	.75	137.35	123	
ATHERTON	18,900	18,900	28.49	29.73	13.12	12.53	3.07	1.05	131.23	97.86	
BACUP	24,600	24,600	21.83	19.47	15.27	16.51	0.69	1.17	106	133	
BARNOLDSWICK		9,630		22.5		10.6		.64		94.7	Birth and death rates lowest for ten years
BIRKDALE	20,250	20,500	15.5	16	10.6	10.9	0.7	.6	112	96	
BURNLEY	105,100	106,267	28.2	24.9	17.9	16	3.06	1.42	211	157	
BRIERFIELD	8,400	8,600	22.85	21.39	14.28	11.74	1.66	.80	151.04	98	
CHORLEY	30,500	31,000	27.18	25.7	14.99	15.71	1.11	1.548	139	143	
CLITHEROE	13,000	13,000	22.9	22	12.7	13.6	0.53	.92	120	83	
COLNE	26,190	26,725	23.32	21.73	12.21	11.53	1.90	.74	144.02	96.38	
DARWEN	42,266	42,668	21.17	19.12	13.01	14.14	0.76	1.10	120	127	
GREAT HARWOOD	13,500	14,000	22.2	21.2	12.66	10.6	.84	.78	130	77.1	
HASLINGDEN	19,116	20,457	20.08	19.45	14.22	14.22	0.78	—	135.41	108	
HINDLEY	26,343	26,660	30.5	27.3	17.6	17.5	1.9	2.5	158	176	
HORWICH	16,214	16,430	26.2	24.71	12.9	11.56	1.23	.79	147	113	
LITTLEBOROUGH	11,578	12,084	20.60	19.77	12.69	13.57	0.86	1.07	83.68	99.54	
LYTHAM	10,094	10,210	13.4	13.6	12.1	10.7	0.3	0.5	73.5	100	
OSWALDTWISTLE	15,000	15,000	25.26	23.60	14.66	14.86	1.26	0.80	134.56	115.81	
PADIHAM	13,930	13,900	26.05	24.60	16.36	14.82	1.36	0.36	165.28	154.97	
RAMSBOTTOM	16,200	16,200	19.87	17.71	12.7	14.32	1.00	1.00	121.1	101	
SWINTON (YORKS.)	14,077	14,196	37.3	33.6	16.3	15.5	2.4	1.8	148	127	Lowest Infantile Mortality recorded for the town
ST. ANNES-ON-SEA ...	10,562	11,023	14.4	13.7	10.5	8.8	0.28	0.54	106.8	53	
WIGAN		93,263		30.67		18.28		2.47		169	

VITAL STATISTICS
of the Whole District during 1909 and Previous Years.

TABLE II.
PADIHAM URBAN DISTRICT COUNCIL.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				Deaths of Residents registered in Public Institutions beyond the District.	NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
		Number.	Rate.	Under 1 Year of Age.		At all Ages.			Number.	Rate.
				Number.	Rate per 1000 Births Registered.	Number.	Rate.			
1	2	3	4	5	6	7	8	9	10	11
*1899	13700	366	26.71	84	229.50	270	19.70		270	19.70
*1900	14000	337	24.70	64	189.91	218	15.57		218	15.57
1901	12205	341	27.93	75	219.94	249	20.40		249	20.40
1902	12205	339	26.95	65	191.74	195	15.97		195	15.97
1903	12383	345	27.86	58	168.11	189	15.26	2	191	15.34
1904	12472	315	25.25	70	222.22	208	16.67	2	210	16.82
1905	13000	305	23.46	40	131.11	181	13.84	1	182	14.00
1906	13500	344	25.55	55	160.43	210	15.55	1	211	15.62
1907	13850	340	24.54	66	194.11	191	13.79	28	219	15.81
1908	13930	363	26.05	60	165.28	201	14.42	27	228	16.36
Aver- ages for years 1899 1908	13124	339	25.90	63	187.23	211	16.11	6	217	16.56
1909	13900	342	24.60	53	154.97	168	12.08	38	206	14.82

* Population much over-estimated during these years.

VITAL STATISTICS OF THE WHOLE DISTRICT
in 1909 and previous years.

TABLE III.

PADHAM URBAN DISTRICT.

YEAR.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
* 1899 ...	13700	366	270	84
* 1900 ...	14000	337	218	64
1901 ...	12205	341	249	75
1902 ...	12205	339	195	65
1903 ...	12383	345	191	58
1904 ...	12472	315	210	70
1905 ...	13000	305	182	40
1906 ...	13500	344	211	55
1907 ...	13850	340	219	66
1908 ...	13930	363	228	60
Averages of Years 1899 to 1908.	13124	339	217	63
1909 ...	13900	342	206	53

* Population much over-estimated during these years.

VITAL STATISTICS.—TABLE IV.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING
THE YEAR 1909.

PADIHAM URBAN DISTRICT.

NOTIFIABLE DISEASE.	CASES IN WHOLE DISTRICT.						
	At all Ages.	At Ages—Years.					
		Under 1.	1 to 5	5 to 15.	15 to 25	25 to 65	65 and upwards
Small Pox ... ..	...	...	...	...	...	...	...
Cholera ... ..	...	...	...	...	...	...	...
Diphtheria, including Membranous Croup	20	...	8	8	3	1	...
Erysipelas	5	1	...	...	1	3	...
Scarlet Fever	14	...	8	5	1	...	...
Typhus Fever ... ..	...	...	...	...	...	...	...
Enteric Fever... ..	3	...	...	1	1	1	...
Relapsing Fever ... ..	...	...	...	...	...	...	...
Continued Fever ... ..	...	...	...	...	...	...	...
Puerperal Fever ... ..	...	...	...	...	...	...	...
Plague ... ..	...	...	...	...	...	...	...
Total	42	1	16	14	6	5	...

VITAL STATISTICS.--TABLE V.
CAUSES OF, AND AGES AT, DEATH DURING YEAR 1909,
PADIHAM URBAN DISTRICT.

CAUSES OF DEATH.	Deaths at the subjoined ages of "Residents" whether occurring in or beyond the District.						
	All ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Smallpox	2	3	4	5	6	7	8
Measles .....	...	...	...	...	...	...	...
Scarlet Fever	1	...	...	1	...	...	...
Whooping Cough	4	2	2	...	...	...	...
Diphtheria and Membranous Croup .....	...	...	...	...	...	...	...
Group .....	...	...	...	...	...	...	...
Typhus Fever .....	...	...	...	...	...	...	...
Enteric Fever .....	...	...	...	...	...	...	...
Other continued Fevers .....	...	...	...	...	...	...	...
Epidemic Influenza	1	...	...	...	...	1	...
Cholera .....	...	...	...	...	...	...	...
Plague .....	...	...	...	...	...	...	...
Diarrhoea .....	...	...	...	...	...	...	...
Enteritis	5	2	2	1	...	...	...
Gastritis	6	6	...	...	...	...	...
Puerperal Fever .....	...	...	...	...	...	...	...
Erysipelas	1	1	...	...	...	...	...
Other Septic Diseases	15	...	2	...	3	8	2
Phthisis (Pulmonary Tuberculosis)	2	1	...	1	...	...	...
Other Tubercular Diseases	9	...	...	...	...	...	...
Cancer (Malignant Disease)	27	9	5	2	...	7	2
Bronchitis	10	...	...	...	...	3	8
Pneumonia .....	...	...	...	...	...	9	1
Pleurisy .....	...	...	...	...	...	...	...
Other Diseases of Respiratory Organs	4	...	1	1	...	2	...
Alcoholism - Cirrhosis of Liver	1	...	...	...	...	1	...
Veneral Diseases	13	13	...	...	...	...	...
Premature Birth .....	...	...	...	...	...	...	...
Diseases and Accidents of Parturition	1	...	...	...	1	...	...
Heart Diseases	17	1	...	1	1	9	5
Accidents	4	1	...	...	...	2	1
Suicides .....	...	...	...	...	...	...	...
All other causes	85	17	4	5	5	25	29
All causes	206	53	16	12	10	67	48

VITAL STATISTICS.—TABLE VI.
INFANTILE MORTALITY DURING THE YEAR 1909.—Deaths from stated Causes in Weeks and Months under One Year of Age.
 PADIHAM URBAN DISTRICT.

CAUSE OF DEATH.	Under 1 Wk.	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 1 Month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under One Year
All Causes—	13	2	5	2	22	5	3	3	4	1	2	5	3	1	2	2	53
Certified
Uncertified
i. Common Infections Diseases—
Small-pox
Chicken-pox
Measles
Scarlet Fever
Diphtheria: Membranous Croup	1	1	..	2
Whooping Cough
ii. Diarrhoeal Diseases—
Diarrhoea, all forms
Enteritis, Mucro-enteritis. Gastro-enteritis	1	..	..	..	2
Gastritis, Gastro-intestinal Catarrh	1	1	1	..	2	3	..	..	..	..	..	..	..	6
iii. Wasting Diseases—	9	..	2	..	11	2	..	..	..	..	..	1	..	..	..	..	13
Premature Birth	1
Congenital Defects
Injury at Birth
Want of Breast milk, Starvation
Atrophy, Debility, Marasmus	1	1	2	1	5	1	1	..	..	..	..	..	..	..	..	..	7
iv. Tuberculous Diseases—	1	1
Tuberculous Meningitis
Tuberculous Peritonitis: Tubes
Mesenteric
Other Tuberculous Diseases
v. Other Causes—
Erysipelas	1	..	..	..	1
Syphilis
Rickets
Meningitis (<i>not Tuberculous</i>)
Convulsions	1	..	..	..	1	1	2	..	..	1	2	2	1	..	1	1	5
Bronchitis
Laryngitis
Pneumonia	1	..	..	..	..	..	..	..	..	1
Suffocation, overlying	2	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Other Causes	4	..	..	..	..	..	..	..	..	..	..	..	5
TOTAL	13	2	5	2	22	5	3	3	4	1	2	5	3	1	2	2	53

Births in the Year { Legitimate ... 319
 Deaths from all causes, at all ages... 206.
 Deaths in the Year { Legitimate Infants... 50
 " " Illegitimate " 3
 Population Estimated to middle of 1909, 13,900.

